**Office**: FEM 1E
**Phone**: (559) 638-3641 ext. 3744
**E-Mail**: doug.gong@reedleycollege.edu

**Office Hours**
MT 11:00-12:00 or by appt
F 8:00 – 9:00 by email

**Math 11-56024**: Statistics
**Class meetings**: M-Th, 9:00-9:50, CCI 201
**Text**: : Elementary Statistics, Larson 6th edition, Pearson
**Prerequisite**: Math 103
**Basic Skills Advisories**: Eligibility for English 126.

## Description

Math 11 is an introduction to statistical methods and techniques for business, behavioral, and social science majors. Topics include descriptive measures of central tendency and variability, probability, binomial and normal distributions, random variables, sampling, estimating, hypothesis testing (parametric and nonparametric), correlation and regression.

## Expectations / Responsibilities

***Instructor***

- Provide a classroom climate in which the student takes responsibility for learning.
- Provide the necessary instruction to be successful in Math 11.
- Clearly communicate progress being made in a timely fashion.

***Student***

- Students must have consistent online access, read email daily and study stats daily.
- Complete assignments on **MyLab** by the due date.
- Learn the material that is taught and ***seek additional assistance*** when necessary.
- Promptly communicate any class related issues.
- Be on time to each arranged meeting.
- Students are responsible for officially dropping the class.

## Grading

| | |
|---|---|
| ***Scale*** | **A** 90-100 **B** 80-89 **C** 70-79 **D** 60-69 |
| ***Face to FaceTests*** **70%** | There will be four Face to Face tests. |
| ***Homework*** **20%** | All Homework is to be completed on MyLab. Not all assignments have the same weight. |
| ***Online Tests*** ***10%*** | Online Tests must be completed on MyLab. |

*Test Dates are subject to change.

### Testing Procedure

Tests are to be completed in pencil. There are **no make-up tests**. You may use a calculator. **NO PHONE**.

If you are more than 15 minutes late for your arranged test, then the test will be a ZERO.

Once you have started the test, you must complete the test and turn it in before leaving the room.

You will be informed if notes, charts, and scantrons may be used for specific tests.

**Location**: Reedley College

**Room**: FEM 4

**Time**: 8:30-11:00 AM

**Dates**: Saturdays (9/26, 10/24, 11/21, 12/12)

***IF YOU HAVE A CONFLICT, CONTACT ME ABOUT POSSIBLE ALTERNATE ARRANGEMENTS ONE WEEK PRIOR TO THE TEST DATE.***

### Academic Dishonesty

**Cheating** is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

**Plagiarism** is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on the particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

***NOTE**: If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act or section 504 of the Rehabilitation act please contact me as soon as possible.*

*Please refer to SCCCD policies for guidance on all matters relating to this course.*

## Objectives

In the process of completing the course, the student will:

A. Summarize and describe given data sets
B. Apply the methods of descriptive statistics to determine the measures of central tendency and variability to a variety of problems.
C. Apply basic principles of probability to determine probabilities of a variety of events.
D. Analyze discrete and continuous probability distributions.
E. Explore the basics of sampling theory.
F. Estimate population parameters through studying confidence intervals.
G. Examine hypothesis testing for small and large samples and multiple populations.
H. Determine if a relationship exists between quantitative variables.

## Course Outline

A. Introduction to Statistics
   1. Statistical data
   2. Frequency distributions
   3. Graphs

B. Population Parameters and Sample Statistics
   1. Measures of central tendency.
      a. Mean
      b. Median
      c. Mode
   2. Measures of Variability
      a. Standard deviation
      b. Quartiles
      c. Range

C. Probability
   1. Rules of probability, random variables, and expected value.
   2. Discrete and continuous probability distributions.
      a. Binomial Distribution
      b. Hypergeometric Distribution
      c. Poisson Distribution

D. Sampling Theory
   1. Simple random sample
   2. Central Limit Theorem

E. Estimating Population Parameters
   1. Estimating from a small or large sample.
   2. Sample size.

F. Hypothesis Testing (Parametric/Nonparametric)
   1. One population, one and two sided tests.
      *z*-test for means and proportions.
      *t*-test for means (independent and dependent samples)
   2. Two populations, sampling distributions
   3. Chi-squared (Goodness of Fit and Contingency Tables)
   4. Analysis of Variance (ANOVA)

G. Correlation and Simple Linear Regression
   1. Correlation coefficient
   2. Regression coefficient
   3. Test of hypothesis about the value of correlation/regression coefficient.